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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,232

04/23/2007

Kook-Heui Lee

50319

1643

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7590

12/07/2010

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EXAMINER

GU, YU

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

12/07/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,232	Applicant(s) LEE ET AL.	
	Examiner YU (Andy) GU	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Applicant's amendment, filed on 11/09/2010, has been entered and carefully considered. Claims 1, 3, 4, 6, 16 and 17 have been amended. Claims 2, 5 and 13 have been cancelled. New claims 18-22 have been added. Accordingly, claims 1, 3-4, 6, 12 and 14-12 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 19-22** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 19 recites "*uplink signaling message for RRC Connection establishment includes a cause corresponding to the received indication*". The Examiner could not find description in the original disclosure regarding a cause corresponding to the received indication. Claims 20-22 are rejected on similar ground (s). clarification or cancellation of claims is requested.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1, 6, 17, 19 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 20040157640 A1 Pirskanen et al. (hereinafter Pirskanen) in view of US 20040037304 A1 Khawand et al (hereinafter Khawand), and further in view of US 20040102212 A1 Sarkkinen et al. (hereinafter Sarkkinen).

Regarding **claim 1**, Pirskanen *discloses a method for initiating uplink signaling by a UE receiving a multimedia multicast/broadcast service (MBMS), the method* (see at least paragraph [0005]) *comprising steps of:*

- *receiving information including an indication indicating UE counting over a MBMS control channel* (see at least paragraph [see at least Figure 2 item 6 and 7 and paragraph [0052]-[0055]).

Pirskanen further discloses the point-to-point channels maybe used to transmit MBMS data (for each UE) if there is less than x UEs joined in a cell (see at least Pirskanen 0007). Therefore, according to Pirskanen, the RNC who has the count of UEs may decide to use Point-to-Point for communication (e.g. "RCN may establish point-to-point channels for each US to transmit the MBMS data from the network..."), this disclosure raises the need for the establishment of a point-to-point channel between the UE and the network. However, Pirskanen does not specifically disclose *the information received over the MBMS control channel includes an establishment of a point-to-point channel used by the MBMS*. In an analogous art, Khawand discloses a signaling procedure, wherein the UE receives information (e.g. 422), initiates an uplink signaling (e.g. 424), and receives a response message (e.g. 426), wherein the information received contains indication for establishment of a radio bearer (i.e. a point-to-point channel) (see at least

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Khawand Fig. 4A and related descriptions). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Pirskanen in view of Khawand to incorporate, in addition to signalling indication for UE counting, signalling indication to the UE for establishing the point-to-point channel in order to facilitate efficient management of MBMS services.

Pirskanen further discloses a RRC connection establishment signaling (see at least paragraph [0047]), but does not specifically disclose in case a UE is in IDLE mode, transmitting, by the UE, an uplink signaling message for a RRC (Radio Resource Control) Connection establishment using received indication; and receiving, by the UE, a response message in response to the uplink signaling message. However, in an analogous art, Sarkkinen discloses a UE in idle state, after receiving indication (e.g. MBMS notifications), transmits uplink signaling message (e.g. RRC connection Request) for RRC connection establishment, and receives response message in response to the uplink signaling message (see at least Sarkkinen paragraph [0064] and Fig. 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Pirskanen, by including the RRC connection establishment signaling taught by Sarkkinen, in order to establish MBMS services via a known routine.

Regarding **claim 6**, Pirskanen as modified by Khawand and Sarkkinen discloses the limitations as shown in the rejection of **claim 1**. Pirskanen modified by Khawand and Sarkkinen further discloses:

- *wherein for the UE in IDLE mode, a message included in said uplink signaling message is an RRC (radio resource control) Connection Request message (see at least Sarkkinen paragraph [0064] and Fig. 3).*

Claim 17, which contains similar limitation as that of claim 1, and is rejected on the same ground (s).

Claims 19 and 21 are rejected on the same ground (s).

6. **Claims 3-4, 9, 20 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirskanen in view of Khawand and Sarkkinen, and further in view of US 20030236085 A1 Ho (hereinafter Ho).

Regarding **claim 3**, Pirskanen as modified by Khawand and Sarkkinen discloses the limitations as shown in the rejection of **claim 1**. Pirskanen further discloses these various UE states: CELL_FACH, CELL_PCH, URA_PCH (see at least paragraph [0011]). Pirskanen does not specifically teach transmitting, by the UE, an uplink signaling message for a cell update using the received indication. However, in a related field of endeavor, Ho discloses a cell update message sent by a UE (see at least Ho paragraph [0014]) as part of a periodical cell update procedure. It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Ho in order for the UE to exchange information with the network.

Regarding **claim 4**, Pirskanen as modified by Khawand and Sarkkinen discloses the limitations as shown in the rejection of **claim 3**. Pirskanen does not specifically disclose *wherein for the UE that is in CELL_FACH, CELL_PCH or URA_PCH mode, a message included in said uplink signaling is a Cell Update message*. However, in a related field of

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endeavor, Ho discloses a cell update message sent by a UE (see at least Ho paragraph [0014]) as part of a periodical cell update procedure. It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Ho in order for the UE to exchange information with the network.

Regarding **claim 9**, Pirskanen as modified by Khawand, Sarkkinen and Ho discloses the limitations as shown in the rejection of **claim 1** or **3**, and **4**. Pirskanen further discloses that the number of UEs associated with a service is used in the determination of whether to use a PTP channel or a PTM channel (i.e. *MBMS channel parameters*) for communication with the UE. Pirskanen does not specifically disclose *wherein the value for the field named "Reason for cell update" in the Cell Update message is set as "For MBMS UE counting"*. However, in a related field of endeavor, Ho discloses a cell update message sent by a UE (see at least Ho paragraph [0014]) as part of a periodical cell update procedure. It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Ho to set the reason for cell update message as *"For MBMS UE counting"* in order to facilitate the reporting of the numbers of UEs associated with the network.

Regarding **claim 18**, Pirskanen as modified by Khawand and Sarkkinen discloses the limitations as shown in the rejection of **claim 3**. Pirskanen further discloses these various UE states: CELL_FACH, CELL_PCH, URA_PCH (see at least paragraph [0011]). Pirskanen does not specifically teach transmitting, by the UE, an uplink signaling message for a cell update using the received indication. However, in a related field of endeavor, Ho discloses a cell update message sent by a UE (see at least Ho

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paragraph [0014]) as part of a periodical cell update procedure. It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Ho in order for the UE to exchange information with the network.

Claims 20 and 22 are rejected on the same ground (s).

7. **Claims 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirskanen in view of Khawand, Sarkkinen and Ho, and further in view of US 6782274 B1 Park et al. (hereinafter Park).

Regarding **claim 7**, Pirskanen as modified by Khawand, Sarkkinen and Ho disclose the limitations as shown in the rejection of **claim 1** or **3**, and **4**. Pirskanen does not specifically disclose *wherein a value for a field named "Reason for cell update" in the Cell Update message is set as "For MBMS channel parameters"*. However, in a related field of endeavor, Park discloses using cell update message to obtain a response message (i.e. cell update confirm message) comprising at least information element related to the physical channel information (e.g. channel parameters) regarding a network (see at least Park column 12 lines 57-67). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen and Ho, to set the reason for cell update message as *"For MBMS channel parameters"* in order to obtains a response message (i.e. cell update confirm message) that contains the channel information necessary for further communication between the UE and the network.

Regarding **claim 8**, Pirskanen as modified by Khawand, Sarkkinen and Ho discloses the limitations as shown in the rejection of **claim 1** or **3**, and **4**. Pirskanen further discloses whether to use a PTP channel or a PTM channel (i.e. *MBMS channel*

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parameters) for communication the UE depends network (e.g. operator resource) (see at least paragraph [0006]). Pirskanen does not specifically disclose *wherein the value for the field named "Reason for cell update" in the Cell Update message is set as "For MBMS PtP mode"*. In a related field of endeavor, Park discloses using cell update message to obtain a response message (i.e. cell update confirm message) comprising at least information element related to the physical channel information (e.g. channel parameters) regarding a network (see at least Park column 12 lines 57-67). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen and Ho, to set the reason for cell update message as *"For MBMS PtP mode"* in order to obtains a response message (i.e. cell update confirm message) that contains the channel information (e.g. using PtP or PtM) necessary for further communication between the UE and the network.

8. **Claims 10 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirskanen in view of Khawand, and further in view of US 7433334 B2 Marjelund et al. (hereinafter Marjelund).

Regarding **claim 10**, Pirskanen as modified by Khawand discloses the limitations as shown in the rejection of **claim 1 or 5**, and **6**. Pirskanen does not specifically disclose *wherein a value for a field named "Reason for connection establishment" in the RRC Connection Request message is set as "MBMS channel parameter"*. However, Pirskanen however discloses either a PtP channel or a PtM channel can be used for data communication with the UE (see at least paragraph [0005]). In a related field of endeavor, Marjelund discloses the cause for establishing a link (i.e. the reason) are

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mandatory information elements included in a RRC connection request message (see at least Marjelund column 7 lines 48-55). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Marjelund to set the reason for connection establishment in the RRC connection request as "MBMS channel parameter", in order to obtain a response (e.g. a RRC connection setup message, which is well known in the art) that contains information regarding the channel to be used for further communication.

Regarding **claim 12**, Pirskanen as modified by Khawand discloses the limitations as shown in the rejection of claim **1 or 5, and 6**. Pirskanen does not specifically disclose *wherein the value for the field named "Reason for connection Establishment" in the RRC Connection Request message is set as "For MBMS UE counting"*. Pirskanen however discloses requesting RCC connection establishment in order to facilitate the counting of UEs (see at least paragraph [0017]). In a related field of endeavor, Marjelund discloses the cause for establishing a link (i.e. the reason) are mandatory information elements included in a RRC connection request message (see at least Marjelund column 7 lines 48-55). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Marjelund to set the reason for connection establishment in the RRC connection request as "For *MBMS UE counting*", in order to facilitate the counting of UEs. .

9. **Claims 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pirskanen in view of Khawand, and further in view US 7031694 B2 Koulakiotis et al. (hereinafter Koulakiotis), and yet further in view of Marjelund.

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Regarding **claim 11**, Pirskanen as modified by Khawand discloses the limitations as shown in the rejection of **claim 1 or 5**, and **6**. Pirskanen does not specifically disclose *wherein the value for the field named "Reason for connection establishment" in the RRC Connection Request is set as "MBMS PtP mode"*. Pirskanen however discloses either a PtP channel or a PtM channel can be used for data communication with the UE (see at least paragraph [0005]). In a related field of endeavor, Koulakiotis discloses providing user the option to receive information (e.g. MBMS data) on dedicated channel (i.e. PtP) or a common channel. (i.e. PtM). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Koulakiotis to give a user the option to choose between PtP or PtM in order to create different business modes (see at least Koulakiotis column 2 lines 18-26). Additionally, Marjelund discloses the cause for establishing a link (i.e. the reason) are mandatory information elements included in a RRC connection request message (see at least Marjelund column 7 lines 48-55). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Koulakiotis, and further in view of Marjelund to set the reason for connection establishment in the RRC connection request as *"MBMS PtP mode"*, in order to request a PtP mode connection.

10. **Claims 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirskanen in view of Khawand and Sarkkinen, and further in view of Koulakiotis, and yet further in view of Marjelund and US 6850759 B2 Van Lieshout et al. (hereinafter Van). Regarding **claim 14**, Pirskanen as modified by Khawand and Sarkkinen discloses the limitations as shown in the rejection of **claim 1**. Pirskanen is silent as to *sending a*

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Radio Link Establishment Request message by a SRNC to a DRNC if an Iur interface exists and the reason for cell update included in said uplink signaling is set as is "For MBMS PtP mode".

In a related field of endeavor, Koulakiotis discloses providing user the option to receive information (e.g. MBMS data) on dedicated channel (i.e. PtP) or a common channel. (i.e. PtM). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Koulakiotis to give a user the option to choose between PtP or PtM in order to create different business modes (see at least Koulakiotis column 2 lines 18-26). Additionally, Marjelund discloses the cause for establishing a link (i.e. the reason) as mandatory information elements included in a RRC connection request message (see at least Marjelund column 7 lines 48-55). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view of Koulakiotis, and further in view of Marjelund to set the reason for connection establishment in the RRC connection request as "*MBMS PtP mode*", in order to request a PtP mode connection.

Additionally, in a related field of endeavor, Van discloses a SRNC and a DRNC and a Iur interface between the SRNC and DRNC (see at least Figure 1 and column 2 lines 30-34, 40-43 and 53-62, where Van further teach that a SRNC is in charge of the radio connection with the UE, and has full control of the radio connection within the RAN, and is connect to the core network, where as a DRNC supports the SRNC by supplying radio resources to the UE). Therefore, in order to establish a PtP mode channel with a UE served by a DRNC controlled by a SRNC, It would have been obvious to a person ordinary skill in the art to modify Pirskanen, Koulakiotis and Marjelund in view of Van to

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send a radio link establishment request by the SRNC to the DRNC to request the DRNC to setup a PtP channel with the UE.

Regarding **claim 15**, Pirskanen, Khawand, Sarkkinen Koulakiotis, Marjelund and Van discloses the limitations as shown in the rejection of **claim 1** and **14**. Pirskanen does not specifically disclose *adding the UE into the context of the MBMS by the DRNC to by adding a number of the participating UEs by 1 after receiving the Radio Link Establishment Request message, and if the increase of the number of participating UEs makes a channel type of the MBMS change from PtP to PtM, the DRNC sending a Radio Link Establishment Failure message to the SRNC.*

Pirskanen However discloses that the decision to serve the UE either via PtP or PtM channel mode as dependent on the number of UE supported by a cell, and that there could be a threshold value x used to make such decision (see at least paragraph [0007], where Pirskanen teach if the number of UEs is less than x, then use PtP, or else use PtM). Pirskanen further discloses the counting of UE (see at least Figure 2). It would have been obvious to a person of ordinary skill in the art that an increment of number of UEs by 1 could make the RNC to switch from PtP mode to PtM mode, thus the RNC would fail to serve the UE requesting the PtP type service. Pirskanen however does not mention a SRNC or DRNC.

Van discloses a SRNC and a DRNC and a Iur interface between the SRNC and DRNC (see at least Van Figure 1 and column 2 lines 30-34, 40-43 and 53-62, where Van further teach that a SRNC is in charge of the radio connection with the UE, and has full control of the radio connection within the RAN, and is connect to the core network,

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where as a DRNC supports the SRNC by supplying radio resources to the UE , thereby adding the UE into the context of service by the DRNC). Therefore, in order to notify the SRNC the service status (i.e. failed to receive PtP type services) of a UE, It would have been obvious to a person of ordinary skill in the art to modify Pirskanen, Koulakiotis and Marjelund in view of Van to send a radio link establishment failure message by the DRNC to the SRNC for further processing.

11. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pirskanen in view of Khawand and Sarkkinen, and further in view of US 20040266447 A1 Terry (hereinafter Terry), and further in view of Van.

Regarding **claim 16**, Pirskanen as modified by Khawand and Sarkkinen discloses the limitations as shown in the rejection of **claim 1**. Pirskanen is silent as to *keeping the UE in CELL_FACH state and sending a Common Transport Channel Resource Initialization message to the DRNC by the SRNC if the lur interface exists and the SRNC knows that the destination cell under the DRNC uses PtM as the channel type of the MBMS*.

In a related field of endeavor, Terry teaches that PtM services are carried out on a FACH channel (thus, a UE receiving data is kept in CELL_FACH state). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen in view Terry in to keep the UE in CELL_FACH state in order to facilitate the PtM type service.

Additionally, Van discloses a *Common Transport Channel Resource Initialization* procedure between a SRNC and a DRNC having a lur interface (see at least Van Figure 1 and column 2 lines 30-34, 40-43 and 53-62). Van further teaches that the *Common Transport Channel Resource Initialization* procedure is carried out when a UE moves

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into a cell under DRNC, and the UE is to use common channel (i.e. FACH channel as taught by Terry) in the new cell (see at least Van column 5 lines 4-25). It would have been obvious to a person of ordinary skill in the art to modify Pirskanen and Terry in view of Van in order to facilitate PtM type services in the situation where a UE is served by a DRNC controlled by a SRNC.

Response to Arguments

12. Applicant's arguments filed 11/09/2010 have been fully considered but they are not persuasive. Applicant argues that Pirskanen's UE is NOT in idle state when receiving indication indicating one of UE counting (see Applicant's remarks page 7). The Examiner disagrees. According Pirskanen, the UE has already returned to the idle state when it receives the "MBMS Notification Counting" at step 216 (see at least paragraph [0052], e.g. "In a fourth step, as represented by dashed line 212, the joining process ends, if there is no other activity the UE 200 goes back the IDLE state...").

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YU (Andy) GU whose telephone number is (571)270-7233. The examiner can normally be reached on Mon-Thur 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on 5712727922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/YU (Andy) GU/
Examiner, Art Unit 2617

/HUY PHAN/
Primary Examiner, Art Unit 2617
